**LAB REPORT**

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**Introduction:**

- Biodiversity are the number of different species living in a specific place. Thus, the name, bio means life and diversity means different. Biodiversity is measured in different geographic regions to know the amount of life in a place and the diversity it has. This tests are made several times to increase the chances of being very accurate, at the end the results are measured with several indexes like the Simpson or Shannon index. These indexes may vary in the numbers but all of them relate with the diversity. For example, the Species Richness just tells the amount of species there are in one place, instead the Simpson gives you the possibility of choosing two random species and finding out if they are the same. These indexes help to measure the biodiversity therefore they are used in many tests.

**Hypothesis:**

- Forest is going to have ore biodiversity because there are more trees, plants and resources for animals to live there.

**Null Hypothesis:**

- The forest will not have more biodiversity.

**Materials & Procedure:**

- Materials: nets, containers, notebook & pencil.

-Procedure: We got all of the materials and we went waling by the forest observing and counting each insect we saw. After we went to the grassland and did the same experiment. After going to both places we went back to the class and compared both environments to test which one had more biodiversity.

**Results:**

- Surprisingly there was more biodiversity in the grassland that in the forest. In the forest there are only 4 different species found and 170 species seen in total however in the grassland or open areas there were 7 different species found and 310 species seen.

**Conclusion:**

- As a conclusion, there was more biodiversity in the grasslands than in the forest. The results of the experiment do not support our hypothesis, now that there were more than twice as much biodiversity in the open area than in the forest. The reason of this answer may be that it is easier to spot animals in the open area than in the grassland since there is more visibility. Also, animals in the forest live in their natural habitat and they might be probably hiding. Also in open areas it is much easier to spot the same animal twice so maybe the numbers in the open area list is much higher because they are repetitive. We believe forests have more biodiversity than open areas but biodiversity is invisible for human eyes in the forest. If there was actually more biodiversity in the open areas than in the forest then the open areas would be their habitats instead of the forest.

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| **Biodiversity Lab** |  |  |  |  |  |
| **Insect study** |  |  |  |  |  |
| **Transect 1** |  |  |  |  |  |
| **Location: Forested ( )** |  |  |  |  |  |
| **Group # 1** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Species** | **# found** | **pi** | **pi2** | **ln[pi]** | **piln[pi]** |
| Flies | 15.00 | 0.19 | 0.04 | -1.66 | -0.315 |
| Butterflies | 16.00 | 0.20 | 0.04 | -1.60 | -0.323 |
| Ants wasps bees | 46.00 | 0.58 | 0.34 | -0.54 | -0.315 |
| Spiders | 2.00 | 0.03 | 0.00 | -3.68 | -0.093 |
|  | 79.00 |  |  |  |  |
|  |  |  |  |  |  |
| **Index** | **Value** |  |  |  |  |
| **Species richness index: S= # species** | 4.00 |  |  |  |  |
| **Simpson's index: D = sum(Pi2)** | 0.42 |  |  |  |  |
| **Shannon-Wiener Index: H = -sum(Piln[Pi])** | 1.047 |  |  |  |  |
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| **Biodiversity Lab** |  |  |  |  |  |
| **Insect study** |  |  |  |  |  |
| **Transect 2** |  |  |  |  |  |
| **Location: Open ( )** |  |  |  |  |  |
| **Group # 1** |  |  |  |  |  |
|  |  |  |  |  |  |
| **Species** | **# found** | **pi** | **pi2** | **ln[pi]** | **piln[pi]** |
| Beeattle | 17.00 | 0.05 | 0.00 | -3.08 | -0.142 |
| Butterflies | 35.00 | 0.09 | 0.01 | -2.36 | -0.223 |
| Crickets | 43.00 | 0.12 | 0.01 | -2.15 | -0.250 |
| Wasps bees ants | 25.00 | 0.07 | 0.00 | -2.69 | -0.182 |
| Flies | 105.00 | 0.28 | 0.08 | -1.26 | -0.357 |
| Spiders | 3.00 | 0.01 | 0.00 | -4.81 | -0.039 |
| Truebugs | 142.00 | 0.38 | 0.15 | -0.96 | -0.368 |
|  | 370.00 |  |  |  |  |
|  |  |  |  |  |  |
| **Index** | **Value** |  |  |  |  |
| **Species richness index: S= # species** | 7.00 |  |  |  |  |
| **Simpson's index: D = sum(Pi2)** | 0.26 |  |  |  |  |
| **Shannon-Wiener Index: H = -sum(Piln[Pi])** | 1.561 |  |  |  |  |